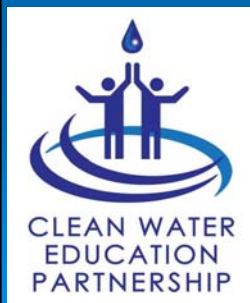


Evaluating Stormwater Mass Media Advertising



Sarah Bruce

EPA NPS Education Conference

May 14, 2009

www.ncCleanWater.org/outreach

Outline

- The NC Clean Water Education Partnership (CWEP)
- Evolution of CWEP reporting
- Evaluating Stormwater Mass Media Advertising project
- Questions / Discussion

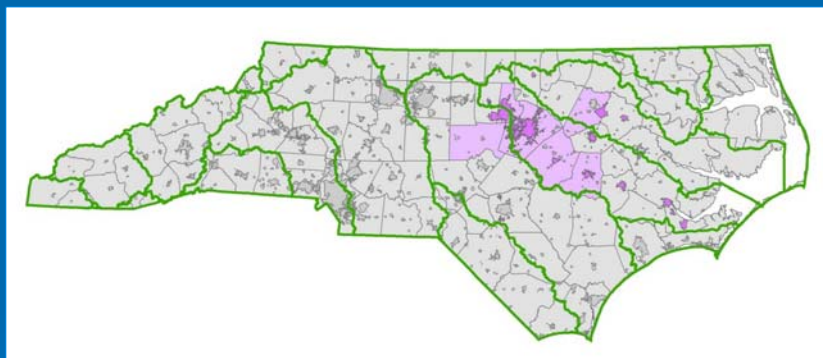


About CWEP

- A local government partnership in NC for stormwater outreach
- Supported by ~30 partners and grants (§319)
- Phase II and state rules require public outreach
- Collaboration on mass media = great economy of scale



CWEP Partners



CWEP Structure

- Council of Governments staffs
- Steering Committee for budget and program decisions
- Task Groups for specific initiatives
- Now using private production house



A Year in the Life of CWEP

- One television campaign
- One bilingual radio campaign
- Misc. print materials
- Website: www.ncCleanWater.org
- Miscellaneous
 - Educational booth/display for Partners to borrow for public events
 - Enviroscape
 - Giveaways



CWEP Media Reporting

1. Initially, just reported daypart, cost, and number of spots ran
2. Then, state outreach coordinator started negotiating media buys for us
3. Started receiving media statistics: GRPs, Reach, Frequency, Impressions



Research Questions

- How much outreach do we need to do?
 - Regulatory compliance?
 - Effect audience's knowledge/behavior?
 - Cumulative effects of media outreach?
- Allocation of budget between media?
Among media outlets?
 - Vary by topic, audience?



CWEP Mass Media Evaluation Project

- Evaluate outputs
 - Media metrics
 - Expenditures
- Evaluate outcomes
 - Web traffic
 - Pre-campaign and post-campaign surveys



CWEP Mass Media Evaluation Project (§319)

- Extract baseline data on knowledge and behavior from 2005 DENR survey
- Conduct CWEP outreach campaigns
- Conduct follow-up survey
- Research campaign evaluation metrics and methods
- Engage professional community in discussion on best practices
- Develop guidance/recommendations



Approaches to Outreach for Changing Public Behavior

- Spaghetti method
- Knowledge-deficit model
- Social marketing
- Other theories and models



Campaign Evaluation

- Outputs
 - can be controlled (for the most part)
 - easier to measure
- Outcomes:
 - influenced by exogenous factors
 - less control → harder to measure



CAVEATS

Causal (experimental/scientific) evaluation methods are problematic for social campaigns

Evaluation must be

- specific to context/audience
- appropriate to program
 - resources available
 - clarity of objectives (benchmarks?)



Evaluation Data

Data gathering for campaign evaluation needs to be aligned with the outreach conducted in terms of

- campaign objectives (topics)
- audience demographics
- time
- space
- messages and media vehicles



Mass Media Campaigns

1. Determine the water quality stressor
2. Determine behavior to target
3. Determine the campaign objective
4. Characterize the target audience
5. Craft and beta test the message
6. Craft and beta test the spot (PSA) to deliver the message



Mass Media Campaigns

7. Determine evaluation metrics and methods
8. Negotiate and execute the flight to reach the audience and provide adequate campaign data
9. Obtain, track, and compile campaign data and other evaluation data
10. Evaluate campaign



Measuring Campaign Outputs

- Number of spots
- Cost
- GRPs, CPP
- Reach & Frequency
- Impressions
- Cost per impression

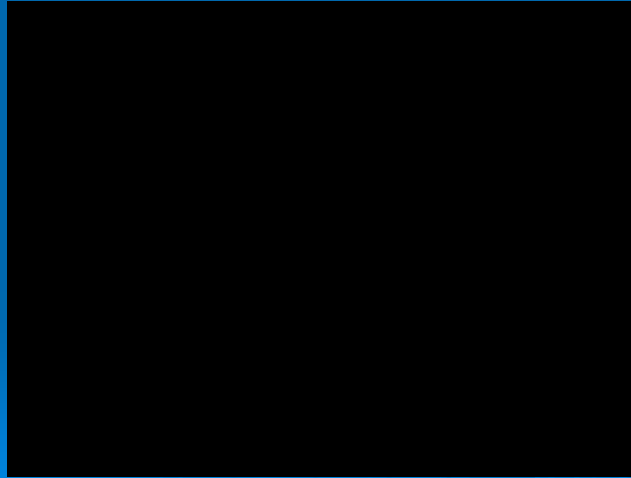


CWEP Outreach Campaigns

- Spring 2007 Television (general stormwater & buffer care)
- Summer 2007 Radio (motor oil disposal and car washing)
- Fall 2007 Television (general stormwater & buffer care)



TV “awareness” spot



Campaign Outputs – Spring TV

Coastal NC buy

Vendor	Impressions	Spots	Cost
Time Warner Cable	129,196	489	\$2,113.40
WCTI / abc12	4,288,000	132	\$24,420.00
MARKET TOTALS:	4,417,196	621	\$26,533.40

Triangle NC area buy

Vendor	Impressions	Spots	Cost
WTVD / abc11	4,981,000	88	\$24,628.75
WRAL/cbs5	16,485,000	95	\$38,965.00
Time Warner Cable	1,519,458	803	\$13,282.70
MARKET TOTALS:	22,985,458	1,118	\$76,876.45

Campaign Outputs – Fall TV

TRIANGLE MARKET

Vendor	Amount	Total # of spots	Actual/Gross Impressions	Reach	Frequency	CPP	GRP	Definition of Market "Population"
WTVD*	\$ 15,467.50	49	2,761,000	47.2	4.7	\$ 60.00	146.0	Persons 18+
WRAL	\$ 12,000.00	39	3,162,000	43.1	3	\$ 94.34	129.3	Persons 2+
CW22	\$ 3,070.00	16	363,000	12.0	1.5	\$ 7.00	18.0	Persons 2+
TWC - Triangle	\$ 15,575.00	424	2,045,954	54.6	2.7	\$ 110.00	147.4	Persons 2+
TOTAL	\$ 46,112.50	528	8,331,954			\$ 104.63	440.7	

* WTVD's performance statistics are somewhat higher due to a make-good campaign run in January 2008 for which statistics were not available.

COASTAL MARKET

Vendor	Amount	Total # of spots	Actual/Gross Impressions	Reach	Frequency	CPP	GRP	Definition of Population
WCTI	\$ 5,560.00	32	485,000	43.9	2.2	\$ 58.04	96.6	Persons 18+
TWC - Coast	\$ 3,396.00	375	131,474	46.3	2.5	\$ 30.00	115.8	Persons 2+
TOTAL	\$ 8,956.00	407	616,474			\$ 42.18	212.3	

Campaign Outputs – Summer Radio



Chatham, Durham, Franklin, Johnston, Orange, and Wake Market									
Demo: Men 18-34 (Pop: 187,300)					Total Adults 18+ (Pop: 1,071,200)				
Station	Spots	Net Reach	Reach %	Frequency Impressions	Net Reach	Reach %	Frequency Impressions		
WBWB	57	34,400	18.4%	3.2	108,900	81.300	7.6%	3.1	248,700
WFXX/K	78	7,700	4.1%	4.1	31,800	66,800	6.2%	3.9	261,900
WQDR	57	17,100	9.1%	3.1	52,800	133,300	12.4%	3.3	443,700
WYMY	57	21,100	11.2%	3.8	80,700	42,900	4.0%	4.6	196,500
Total	249	69,100	36.9%	4.0	274,200	291,100	27.2%	4.0	1,150,800
Cumberland Market									
Demo: Men 18-34 (Pop: 138,000)					Total Adults 18+ (Pop: 772,100)				
Station	Spots	Net Reach	Reach %	Frequency Impressions	Net Reach	Reach %	Frequency Impressions		
WKML	39	13,500	9.8%	3.8	51,000	70,800	9.2%	3.7	264,000
WYMY	57	8,800	6.4%	5.4	47,700	21,500	2.8%	6.7	143,700
Total	96	21,400	15.5%	4.6	98,700	90,300	11.7%	4.5	407,700
Craven & Lenoir Market									
Demo: Men 18-44 (Pop: 27,000)					Total Adults 18+ (Pop: 458,500)				
Station	Spots	Net Reach	Reach %	Frequency Impressions	Net Reach	Reach %	Frequency Impressions		
WRNS	33	4,000	14.8%	3.1	12,600	53,700	11.7%	3.6	191,100
WFXX	39	1,300	4.6%	5.3	6,600	7,000	1.5%	4.7	33,000
Total	105	5,100	18.8%	3.8	19,200	59,900	13.1%	3.7	224,100
Edgecombe & Nash Market									
Demo: Men 18-49 (Pop: 31,200)					Total Adults 18+ (Pop: 108,000)				
Station	Spots	Net Reach	Reach %	Frequency Impressions	Net Reach	Reach %	Frequency Impressions		
WBWB	57	0	0.0%	0	0	1,800	1.7%	1.8	3,300
WFXX/K	78	4,100	13.3%	12.1	50,100	14,400	13.4%	6.8	97,800
WQDR	57	1,500	4.8%	1.8	2,700	6,000	5.6%	2.4	14,700
WYMY	57	800	2.7%	2.5	2,100	1,100	1.0%	1.9	2,100
Total	249	6,100	19.7%	8.9	54,900	2,200	20.4%	5.3	117,900
Granville Market									
Demo: Men 12+ (Pop: 25,600)					Total Adults 12+ (Pop: 47,000)				
Station	Spots	Net Reach	Reach %	Frequency Impressions	Net Reach	Reach %	Frequency Impressions		
WBWB	57	900	3.5%	5.3	4,800	900	1.9%	5.3	4,800
WFXX/K	78	900	3.5%	4.7	4,200	5,300	11.2%	5.4	28,500
WQDR	57	1,800	6.9%	1.9	3,300	4,500	9.6%	2.7	12,000
WYMY	57	3,100	12.0%	6.3	19,500	3,100	6.6%	6.3	19,500
Total	249	6,100	23.7%	5.2	31,800	12,400	26.5%	5.2	64,800
Wayne & Wilson Market									
Demo: Men 18-44 (Pop: 33,000)					Total Adults 18+ (Pop: 139,900)				
Station	Spots	Net Reach	Reach %	Frequency Impressions	Net Reach	Reach %	Frequency Impressions		
WBWB	57	3,600	10.9%	3	10,800	7,500	5.4%	3.2	24,300
WFXX	39	0	0.0%	0	0	8,700	6.2%	4.8	41,400
WQDR	57	3,700	11.2%	2.9	10,800	17,900	12.8%	2.4	43,500
WYMY	57	2,000	6.1%	2.1	4,200	4,800	3.4%	4.2	20,400
Total	210	8,500	25.7%	3.0	25,800	35,300	25.3%	3.7	129,600

Measuring Campaign Outputs is TRICKY!

- Target audience (“demographic”) vs. population data
- “Population” not defined consistently
- Audience “duplication”
- Partnership geography vs. “market” data



Campaign Outcomes

- Increase in traffic to CWEP website?
- Improvements in self-reported knowledge and/or behavior in CWEP jurisdictions measured by pre- and post-campaign surveys?



Pre-Campaign Baseline Data

- ECU extracted data for CWER jurisdictions from 2005 DENR phone survey
- Surveyed basic knowledge and various NPS-related behaviors
- Basis for outreach?

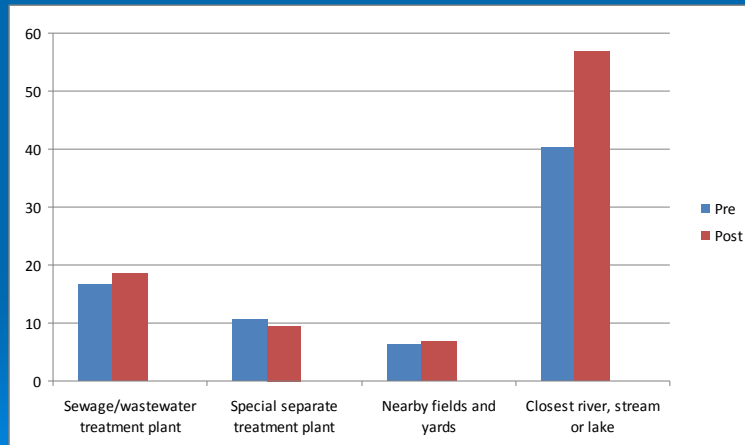


ECU Follow-Up Survey

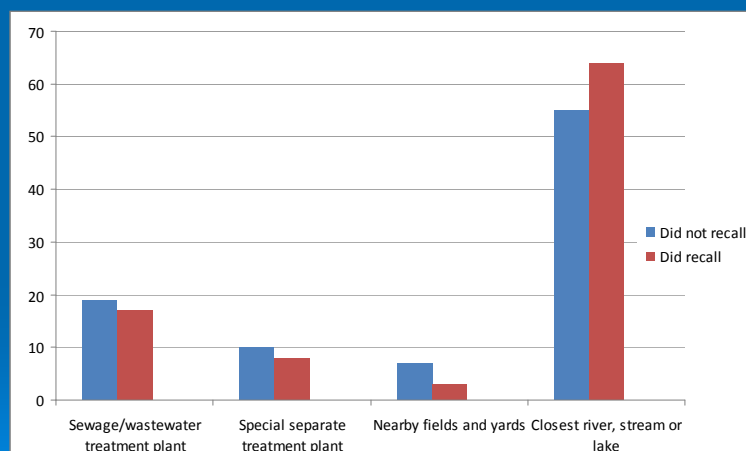
- Almost identical to 2005 DENR instrument
- Mail component added to increase timeliness of survey "completes"
- 3 campaigns had run, instead of just one



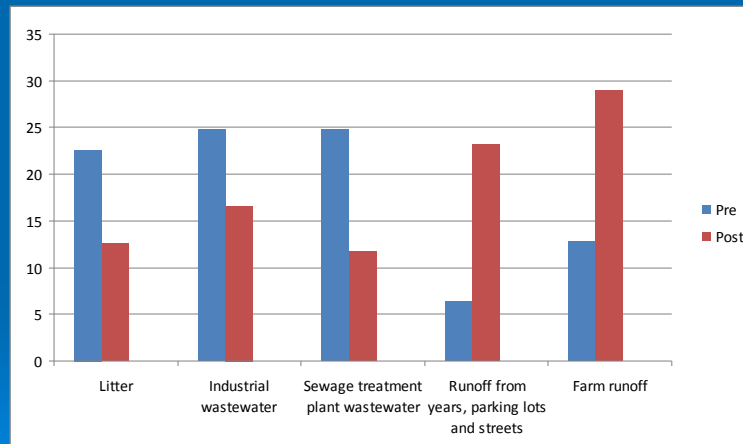
Where does stormwater flow?



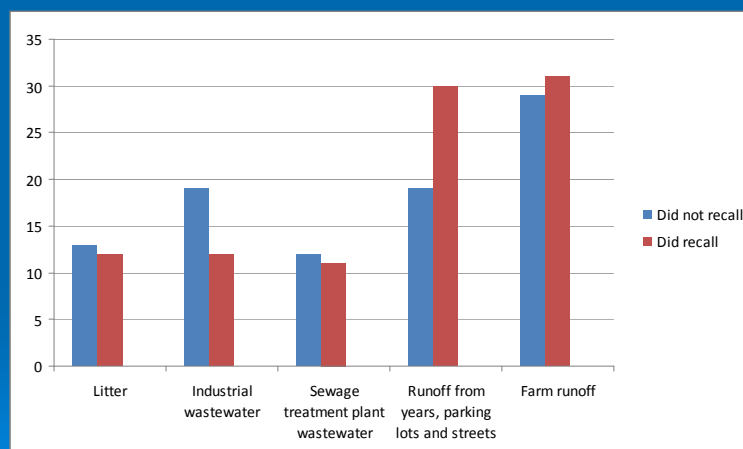
Stormwater flows to... by TV ad recall



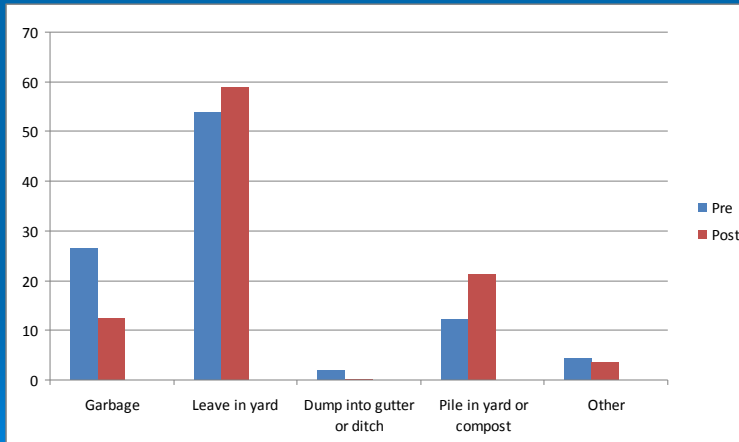
What is the largest source of water pollution?



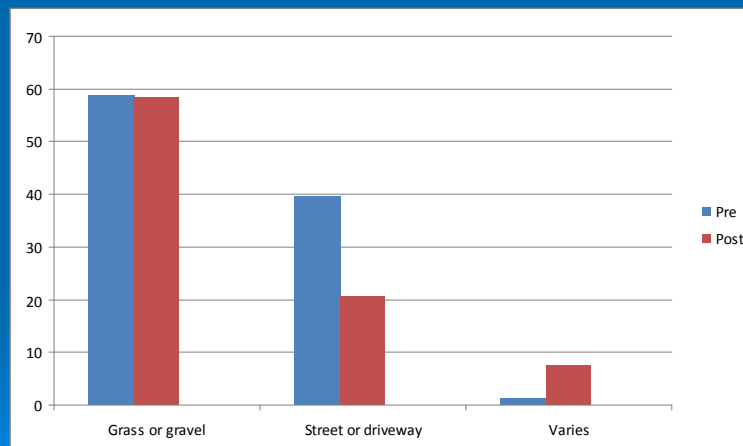
Pollution source by ad recall



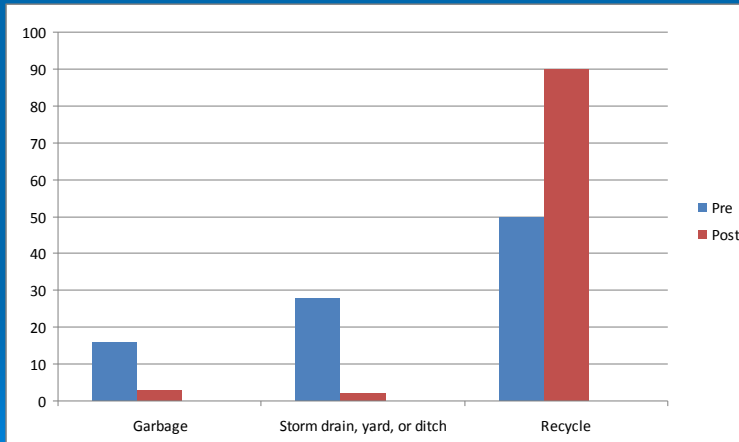
What do you do with grass clippings?



Where does your carwash runoff go?



How do you dispose of used motor oil?



Survey Comparison Findings

www.ncCleanWater.org/outreach/evaluation

Topic/behavior	Direction of change?	Statistically significant?	"Correct" response(s) positively correlated with TV ad recall?
Major sources of water pollution are nonpoint, not point sources	+	Yes	Yes
Stormwater goes to nearest creek or stream	+	Yes	Yes
Car wash flow onto grass or gravel	+	Yes	Yes
Proper disposal of used motor oil	+	Yes	Yes
Leaving grass clippings on lawn, not put in garbage	+	Yes	Yes (mildly)
Fertilizing frequency	+	No	No
Soil testing to determine need for fertilizer	-	Yes	Yes
Pick up after pet	Mixed	No	Trend was mixed

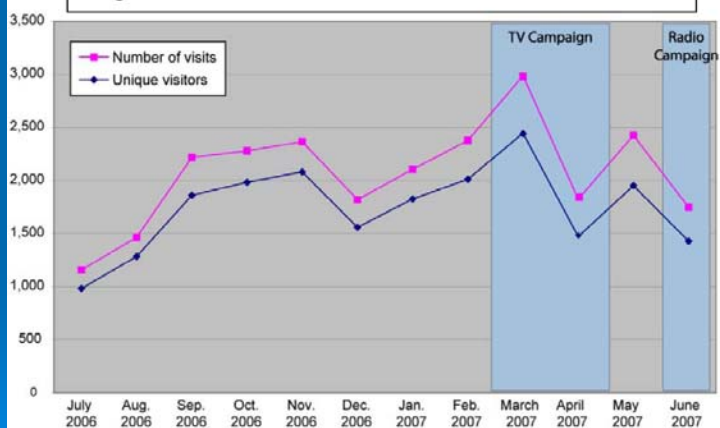
Knowledge/Behavior Correlation

- Survey responses coded for “less” to “more” preferable responses
- + for grass clipping disposal
- – for lawn fertilizing
- – for soapy car wash water flow
- Correlations are not consistent with ad recall cross-tabulations!



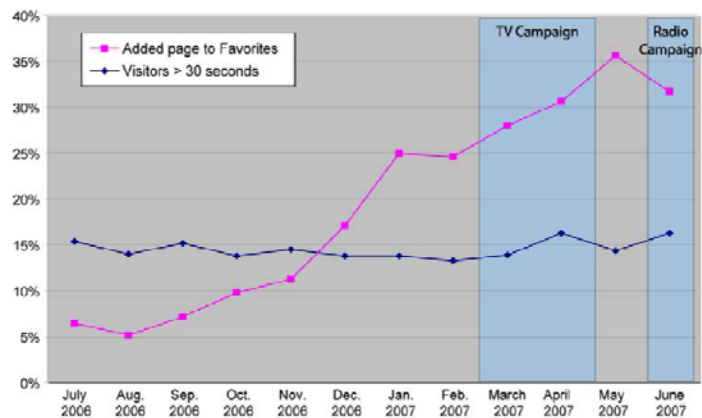
CWEP Website Activity

Figure 1: Number of overall visits and number of visitors for FY07.



CWEP Website Activity

Figure 2: Percentages of visitors adding page to favorites and staying more than 30 seconds



CWEP Homepage Poll

- Featured during Spring TV campaign

What brings you to our website today?

I saw one of your commercials on television	29	46%
I have visited before	12	19%
I clicked a link on another website	11	17%
Other	6	10%
I used a search engine	5	8%



Evaluation Conclusions

- TV ad recall was correlated with knowledge and behavior improvements
- TV campaigns drove visitors to our website
- Relationship between better knowledge and better behavior is unclear



Research Questions

- How much outreach do we need to do?
 - Regulatory compliance?
 - Effect audience's knowledge/behavior?
 - Cumulative effects of media outreach?
- Allocation of budget between media?
Among media outlets?
 - Vary by topic, audience?



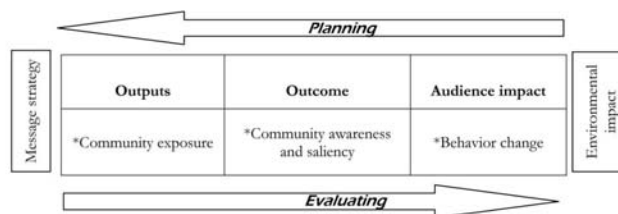
Project Deliverables

- Comparison of survey datasets
- Literature review and case studies
- Guidance on media planning and evaluation
- Final Report on 319 project (lessons learned)
- Discussion forum:
www.ncCleanWater.org/outreach/forum



Lesson: Use a Logic Model

- Encapsulates process visually
- Shows critical linkages (IF-THEN)
- Facilitates campaign planning and evaluation
- Track and justify changes to project



Lesson: Partner Up!

- Could done better partnership with state for survey research and analysis
- Would have been good to have assistance from someone with research experience
- Economies of scale



Summary

- Our evaluations are evolving
- Tracking outputs is essential and practical
- Develop benchmarks for outputs??
- Additional resources: direct into planning and designing strong, cohesive campaigns



Recommendations for Evaluating Outcomes

- Conduct higher-order evaluations...
 - periodically
 - in partnership
 - for specific campaigns
- SIMPLIFY as much as possible
 - specific objectives
 - particular behaviors or knowledge
 - targeted data collection



Bigger Questions

- Will increased knowledge translate to better behavior?
- Will behavior changes STICK?
- Would it have been even *more* effective to combine media with CBSM elements?



Helpful Resources

- Surmanek, Jim. Media Planning: A Practical Guide (book)
- NOAA Project Design and Evaluation Course
- WK Kellogg Foundation Evaluation Handbook
- Coffman, Julie. Public communication campaign evaluation.... Harvard Family Research. [White paper available online](#)
- Also: CWEP Annual Reports and Campaign Summaries are available on www.ncCleanWater.org under Outreach



Please help!

- I'm doing CASE STUDIES of how governments are reporting on and evaluating mass media public outreach
- Please share your evaluations / reports!
 - Post links to discussion forum www.ncCleanWater.org/outreach/evaluation
 - Email sbruce@tjcog.org



Questions?

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www.ncCleanWater.org

*See “Outreach” tab for info
on CWER program
and **discussion forum!***

